PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Assistant Commissioner for Patents
United States Patent and Trademark Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 18 August 2000 (18.08.00)	
International application No. PCT/US99/28600	**Applicant's or agent's file reference** 8887.3005PCT
International filing date (day/month/year) 02 December 1999 (02.12.99)	**Priority date** (day/month/year) 03 December 1998 (03.12.98)
Applicant ELDERING, Charles, A. et al	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International Preliminary Examining Authority on:

30 June 2000 (30.06.00)

[ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[ ] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO **34, chemin des Colombettes** **1211 Geneva 20, Switzerland**	Authorized officer Manu Berrod
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

14

Applicant's or agent's file reference 8887.3005PCT	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US99/28600	International filing date *(day/month/year)* 02 DECEMBER 1999	Priority date *(day/month/year)* 03 DECEMBER 1998
International Patent Classification (IPC) or national classification and IPC IPC(7): G06F 151/00 and US Cl.: 705/1, 10, 14		
Applicant (TELECOM PARTNERS, LTD.) EXPANSE NETWORKS, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets.

   [~] This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:

   I [X] Basis of the report

   II [ ] Priority

   III [ ] Non-establishment of report with regard to novelty, inventive step or industrial applicability

   IV [ ] Lack of unity of invention

   V [X] Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   VI [ ] Certain documents cited

   VII [ ] Certain defects in the international application

   VIII [ ] Certain observations on the international application

Date of submission of the demand	Date of completion of this report
30 JUNE 2000	27 APRIL 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer ERIC W. STAMBER James R. Matthews Telephone No. (703) 305-3800

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US99/28600

I. Basis of the report

1. With regard to the elements of the international application:*

[ ] the international application as originally filed

[X] the description:
pages 1-13 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the claims:
pages 14-16 , as originally filed
pages NONE , as amended (together with any statement) under Article 19
pages 17-22 , filed with the demand
pages NONE , filed with the letter of _____

[X] the drawings:
pages 1-12 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the sequence listing part of the description:
pages NONE , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

[ ] the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

[ ] the language of publication of the international application (under Rule 48.3(b)).

[ ] the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international

[ ] contained in the international application in printed form.

[ ] filed together with the international application in computer readable form.

[ ] furnished subsequently to this Authority in written form.

[ ] furnished subsequently to this Authority in computer readable form.

[ ] The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

[ ] The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. [X] The amendments have resulted in the cancellation of:

[X] the description, pages NONE

[X] the claims, Nos. NONE

[X] the drawings, sheets/fig NONE

5. [ ] This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

** Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

*** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US99/28600

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. statement

Novelty (N)	Claims	1-31	YES
	Claims	NONE	NO
Inventive Step (IS)	Claims	1-31	YES
	Claims	NONE	NO
Industrial Applicability (IA)	Claims	1-31	YES
	Claims	NONE	NO

2. citations and explanations (Rule 70.7)

Claims 1-31 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest a system and method for identifying a particular subscriber. The subscriber is identified by comparing the subscriber activities that includes channel change sequences, volume sequences, time of day sequences, time of day viewing and program content associated with the particular subscriber.

---------- NEW CITATIONS ----------

NONE

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15. A method of identifying a viewer of a program based on viewing characteristics, the method comprising:

monitoring a plurality of viewing sessions;

segregating the viewing sessions into clusters, wherein the segregation is performed so that the viewing sessions within each cluster have a common identifier representative of the viewing characteristics; and

identifying the viewer based on the viewing characteristics associated with the clusters.

16. The method of claim 15, wherein said monitoring includes:

recording the viewing characteristics for each viewing session; and

generating a program characteristics profile and a program demographics profile for each viewing session based on programs viewed.

17. The method of claim 16, wherein said clustering includes:

generating a session data vector for each session based on the viewing characteristics, the program characteristics profile, and the program demographics profile data for the viewing session; and

segregating the session data vectors into clusters, wherein the segregation is performed so that session data vectors within each cluster has a common identifier.

18. The method of claim 16, wherein said clustering includes:

generating a signature signal from viewing characteristics for each viewing session;

generating a session profile for each viewing session based on the viewing characteristics, the program characteristics profile, and the program demographics profile for the viewing session; and

segregating the session profiles into clusters, wherein each cluster will be associated with a signature signal.

19. A method for identifying an individual subscriber from a set of subscribers who all have access to a source of information and entertainment, the method comprising:

recording subscriber selection data;

applying a signal processing algorithm to the subscriber selection data to generate processed subscriber selection data; and

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Rec'd PCT/PTO 30 JUN 2000

identifying the individual subscriber from the set of subscribers based on a correlation of the processed subscriber selection data with common identifiers.

20. The method of claim 19, wherein said recording subscriber selection data includes recording channel change sequences.

21. The method of claim 19, wherein said recording subscriber selection data includes recording a volume control sequence.

22. The method of claim 19, wherein said recording subscriber selection data includes recording time-of-day viewing data.

23. The method of claim 19, wherein said applying a signal-processing algorithm includes applying a Fourier transform based algorithm.

24. The method of claim 19, wherein the source of information and entertainment is a television.

25. A system for identifying a viewer of a program based on viewing characteristics, the system comprising:

means for monitoring a plurality of viewing sessions;

means for segregating the viewing sessions into clusters, wherein the segregation is performed so that the viewing sessions within each cluster have a common identifier representative of the viewing characteristics; and

means for identifying the viewer based on the viewing characteristics associated with the clusters.

26. The system of claim 25, wherein said means for monitoring includes:

means for recording the viewing characteristics for each viewing session; and

means for generating a program characteristics profile and a program demographics profile for each viewing session based on programs viewed.

27. The system of claim 26, wherein said means for clustering includes:

means for generating a session data vector for each session based on the viewing characteristics, the program characteristics profile, and the program demographics profile data for the viewing session; and

means for segregating the session data vectors into clusters, wherein the segregation is performed so that session data vectors within each cluster has a common identifier.

28. The system of claim 26, wherein said means for clustering includes:

means for generating a signature signal from viewing characteristics for each viewing session;

means for generating a session profile for each viewing session based on the viewing characteristics, the program characteristics profile, and the program demographics profile for the viewing session; and

means for segregating the session profiles into clusters, wherein each cluster will be associated with a signature signal.

29. A computer program embodied on a computer-readable medium for identifying an individual subscriber from a set of subscribers, said computer program comprising:

a source code segment for recording subscriber selection data;

a source code segment for processing the subscriber selection data to generate processed subscriber selection data;

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Rec'd PCT/PTO 30 JUN 2000

a source code segment for identifying the individual subscriber from the set of subscribers based on a correlation of the processed subscriber selection data with common identifiers.

30. The computer program of claim 29, wherein said source code segment for recording subscriber selection data records channel change sequences, volume control sequences, and time-of-day viewing data.

31. The computer program of claim 29, wherein said source code segment for processing the subscriber selection data processes the subscriber selection data by applying a Fourier transform based algorithm.

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WORLD INTELLECTUAL PROPERTY ORGANIZATION
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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G06F 151/00 — A1

(11) International Publication Number: WO 00/33233

(43) International Publication Date: 8 June 2000 (08.06.00)

(21) International Application Number: PCT/US99/28600

(22) International Filing Date: 2 December 1999 (02.12.99)

(30) Priority Data:
60/110,770 3 December 1998 (03.12.98) US

(71) Applicant *(for all designated States except US)*: TELECOM PARTNERS LTD. [US/US]; 900 Town Center, New Britain, PA 18901 (US).

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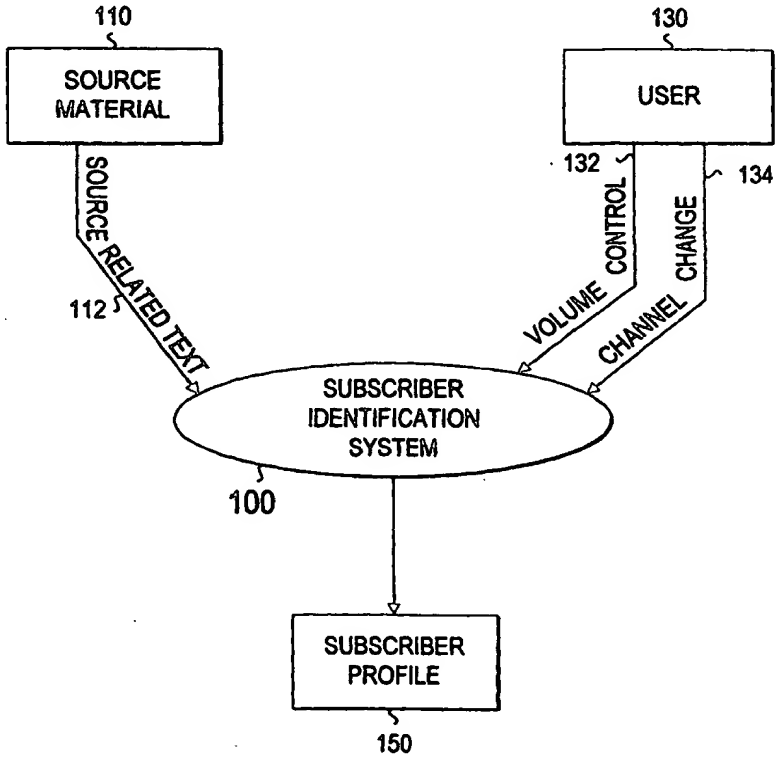
(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: SUBSCRIBER IDENTIFICATION SYSTEM

(57) Abstract

A subscriber identification system (100) is presented in which subscriber selection data (250) including channel changes (134), volume changes (132), and time–of–day viewing information is used to identify a subscriber (user) (130) from a group of subscribers (130). In one instance, the subscriber selection data (250) is recorded and a signal processing algorithm such as a fourier transform is used to produce a processed version of the subscriber selection data. The processed version of the subscriber selection data (250) can be correlated with stored common identifiers of subscriber profiles to determine which subscriber (130) from the group is presently viewing the programming. A neural network or fuzzy logic can be used as the mechanism for identifying the subscriber (130) from clusters of information which are associated with individual subscribers.



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EE	Estonia	**LR**	Liberia	**SG**	Singapore		

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/28600

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06F 151/00

US CL :Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/1, 10, 14

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,155,591 A (WACHOB) 13 October 1992, col. 4, lines -col. 6, lines 1-68.	1-14
Y	US 4,779,198 A (LURIE) 18 October 1988, col. 3, lines 9-19, col. 10, lines 66-, col. 11, lines 1-11.	1-14
A,E	US 6,035,280 A (CHRISTENSEN) 07 March 2000, Figures 1-14.	1-14
A	US 4,833,30 A (HUMBLE) 23 May 1989, col. 2, line 15-, col. 3, lines 1-68.	1-14

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search	Date of mailing of the international search report
25 MARCH 2000	25 APR 2000
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer TODD VOELTZ Telephone No. (703) 305-9714

Form PCT/ISA/210 (second sheet) (July 1998)☆

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/28600

A. CLASSIFICATION OF SUBJECT MATTER:
US CL :

705/1, 10, 14

B. FIELDS SEARCHED
Electronic data bases consulted (Name of data base and where practicable terms used):

APS
profile,demographic,age,gender,sex,characteristics,user,viewers,litseners,users,consumers,subscribers,determines,probability,guess